Electric Power Entity Reporting Requirements
Frequently Asked Questions (FAQs)

for California's Mandatory Greenhouse Gas Reporting Regulation

ARB has developed this Frequently Asked Questions (FAQ) document on issues that pertain to reporting requirements for Electric Power Entities (EPE) under the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (title 17, California Code of Regulations, section 95100 et seq) (MRR). These FAQs respond to questions and comments from stakeholders and provide further clarification on specified source electrical imports, meter data requirements, the qualified export (QE) adjustment, renewable electricity and Renewable Energy Credits (REC), and reporting electricity sales into California Independent System Operator (CAISO) markets. This document clarifies MRR requirements; it neither creates nor modifies any legal requirements.

1. Specified Source Electrical Imports

This section describes the requirements for specified source imports, seller warranty, short-term transactions, asset controlling suppliers (ACS), and ACS power.

1.1. General Requirements for Reporting Specified Source Imports

The following FAQs address general questions for reporting specified source electrical imports under MRR, including what criteria must be met to claim imported power as from a specified source.

1.1.1. What criteria must be met for imported electricity to be reported as from a specified source?

If imported electricity meets specified source requirements in MRR, it must be reported as such. To report imported power as from a specified source, an electric power entity (EPE) must have a specified source power contract, the power must meet direct delivery requirements (generally through e-tag documentation), and REC serial numbers must be submitted, if applicable. These requirements are described in section 95852(b)(3) of the Cap-and-Trade Regulation (title 17, CCR, sections 95801 et. seq.) and section 95111 of MRR. Specific reporting requirements on aggregation, seller warranty, and measurement are set forth in section 95111(a)(4) of MRR.

1.1.2. For imports made on behalf of a retail provider, do we need to report all of the details of the import (as if we were the importer) or do we only report the REC serial numbers that are associated with the imports?

Section 95111(c)(4) of MRR requires retail providers that report any imports or exports to also report electricity imported on their behalf to serve their load, and identify the importing first deliverers. In "Workbook 1," the Excel workbook used for reporting EPE transactions in the California Electronic Greenhouse Gas Reporting Tool (Cal e-GGRT), retail providers must report all of the details of "on behalf of" imports (as if they were the importer), except that they would select "no" in the "Are you the first deliverer?" field, and "yes" in the "If you are a Retail Provider, was the Power Brought in on Your Behalf?" field. This applies to both specified and unspecified imports, including electricity from California Renewables Portfolio Standard (RPS) eligible renewable energy resources.

1.1.3. Can substitute power be provided by a specified source?

Yes. Substitute power can be provided by a specified source. However, it is generally the case that ancillary services for transmission are provided as unspecified power from within the host balancing authority area (BAA). An EPE must provide appropriate documentation, such as a specified source contract for substitute power (also referred to as ancillary services power), to the verifier and ARB to substantiate the specified source claim.

1.1.4. Can a specified source include more than one facility?

Multiple power generation facilities cannot constitute a single specified source under MRR. Pursuant to section 95102(a) of MRR a specified source of electricity is a facility or unit (singular) which can be claimed as a delivered source of electricity. Thus, a reporting entity cannot register multiple units as a single facility or source, for purposes of obtaining a single specified source emission factor. Multiple dams that are operated under a single Federal Energy Regulatory Commission (FERC) license may be considered one facility.

1.2. Seller Warranty

The following FAQs address questions related to seller warranty requirements in MRR, including how the requirements are applied to specified source claims.

1.2.1. What is the role of the seller warranty requirements in short-term transactions?

The seller warranty provisions in section 95111(a)(4) of MRR are designed to correctly identify and report specified power transactions and prevent the resale of unspecified power as specified source power. Transactions that meet the seller warranty requirements are eligible to be claimed as specified source imports, as long as the requirements of MRR are met. Therefore, a reporter cannot report electricity as specified power for transactions that do not meet the seller warranty requirements. The seller warranty requirements apply beginning with 2014 data reported in 2015.

1.2.2. What is seller warranty, as it pertains to specified source claims?

Seller warranty is a power contract provision or guarantee in which the seller agrees to provide power from a specified source to a buyer, such that it has not been previously transacted as unspecified power. Seller warranty provides for greater electricity market transparency and more accurate pricing when purchasing specified power.

1.2.3. Is it possible to resell unspecified power as specified power?

While it is technically possible to resell unspecified power as specified source power, such a transaction would not meet the seller warranty requirements in section 95111(a)(4) of MRR, and therefore, such power must not be reported as specified under MRR. However, if the power was reported as specified, and during the verification process it was determined to be unspecified, the specified power would need to be reclassified as an unspecified source transaction, which could result in an increase in covered emissions for the reporter.

1.3. Short-Term Transactions

The following FAQs address questions related to short-term transactions of electric power, including how the specified source requirements and seller warranty provisions of MRR apply to short-term transactions for electric power.

1.3.1. What are short-term and long-term transactions for electric power?

Under most power contract agreements, often referred to as enabling agreements, short-term transactions are transactions for less than one week in duration, for which written confirmations are not required between buyer and seller, and long-term transactions are for transactions for one week or more in duration. Short-term

transactions are typically for day-ahead or real-time power. Unlike short-term transactions, long-term transactions generally require the use of written confirmations.[1]

1.3.2. Are there any standard contracts that could be used to facilitate short-term transactions that would meet ARB specified source requirements?

Most short-term power trading is conducted under the umbrella of one of the standard power contract enabling agreements, e.g., the Western Systems Power Pool (WSPP), Edison Electric Institute (EEI), or International Swaps and Derivatives Association (ISDA). If operating under a standard agreement, power traders are bound by the standard provisions of the agreements under which they may verbally transact. Short-term power markets have evolved to allow for a high level of transaction precision and efficiency for the standard confirmation provisions, including price, quantity, and delivery point, which can be easily confirmed verbally.[2] Additionally, to facilitate reporting and verification under MRR, WSPP members approved an optional specified source confirmation in December 2013, referred to as Exhibit C-SS, which can be utilized in both short-term and long-term transactions.[3]

1.3.3. How will a verifier and ARB determine whether a short-term transaction is from a specified source?

Short-term power transactions can be verbally transacted via phone. Although an entire short-term transaction can be accomplished via voice record, both buyer and seller may have very different opinions about what product was actually transacted, e.g. whether specified or unspecified power was transacted. Thus, not all short-term transactions may result in an explicit acknowledgement between buyer and seller of the type of power transacted. In this scenario an EPE may use the voice tape to indicate that the buyer agreed to a specified source product prior to execution of the transaction, and thereby establish evidence of seller warranty, which can then be used as evidence during the verification process.

A specified source claim must include (1) a contract, (2) direct delivery, and (3) a specified source seller warranty throughout the market path.

- Contract requirement: A reporter claiming transacted electricity as specified needs to show evidence of a contract, which can include one of the standard enabling agreements.

[1] The WSPP standard contract agreements are available here: http://www.wspp.org/current_effective_agreement.php
[2] Under standard enabling agreements, verbal can mean both verbal and electronic (Instant Messenger).
[3] The WSPP specified source confirmation can be found here: www.wspp.org/filestorage/wspp_exhibit_c_ss_specified_source_watermark_123113.doc.

- Direct delivery requirement: A reporter claiming transacted electricity as specified needs to demonstrate direct delivery, likely by providing the standard e-tag documentation, which is the most common, or by demonstrating another form of direct delivery per section 95102(a).
- Seller warranty requirement: A reporter claiming the transacted electricity as specified needs to provide evidence of a specified power purchase seller warranty at the time the transaction is executed. Reporters may refer to Table 1 for guidance on situations in which this requirement may be satisfied. The examples in Table 1 are not exclusive.

Table 1 – Seller Warranty Guidance For Short-Term Transactions

	DID REPORTER ESTABLISH EVIDENCE OF SELLER WARRANTY?
SPECIFIED SOURCE CLAIM	**Yes.** At a minimum, voice tape indicates buyer agreed to buy specified power. Supplemental documentation, such as trade logs and/or aggregate daily, weekly, or monthly confirmations can strengthen the claim.
MUST BE CLAIMED AS UNSPECIFIED	**No, if:** Voice tape indicates buyer agreed to buy unspecified power. -or- Voice tape has no indication buyer agreed to transact specified source power, including ACS power, prior to execution. -or- Buyer cannot demonstrate that the source was specified prior to contract transaction execution.
Note: This table assumes valid contract rights, and direct delivery with appropriate source information. See Table 2 for BPA transactions.	

1.3.4. What happens if a reported specified source claim is found to be invalid during the MRR verification process?

In the event a reported specified source claim is found to be invalid during the verification process, the reporter would be required to reclassify the transaction as unspecified in the greenhouse gas (GHG) emissions data report. This could result in an increase of covered emissions for the first deliverer (importer).

Please see Section 1.1 of this document for more information on the types of evidence that may be submitted during the verification process to substantiate specified source claims.

1.4. ACS Requirements

The following FAQs address questions related to asset controlling suppliers (ACS), including requirements that must be met to be approved as an ACS, which entities are approved as an ACS under MRR, and how the specified source requirements and seller warranty provisions of MRR apply to ACS power.

1.4.1. What is an Asset Controlling Supplier?

An ACS is a specific type of EPE approved and registered by ARB. An ACS owns or operates interconnected electricity generating facilities or serves as an exclusive marketer for these facilities even though it does not own them. Each ACS is assigned a system emission factor by ARB for the wholesale electricity procured from its system and imported into California. Once approved by ARB, ACS power procured from an ACS's system is considered specified source power, subject to meeting all applicable requirements.

1.4.2. What is the process for an entity to be approved as an Asset Controlling Supplier?

MRR includes provisions for an EPE to apply to become an ACS in section 95111(f). By May 1, EPEs seeking approval must submit an ACS application, which is posted here: http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep-power/acs-power.htm.

By June 1, the EPE must file a system emission factor calculation using Workbook 4, as posted on the Cal e-GGRT Reporting Form Instructions webpage: http://www.ccdsupport.com/confluence/display/calhelp/Reporting+Form+Instructions#EPE

After the system emission factor calculation has been third-party verified and ARB approved the EPE as an ACS, ARB will post an ACS system emission factor for use during the following calendar year.

1.4.3. Which entities are approved as an ACS under MRR?

For data years 2014 and 2015, ARB has approved two ACSs: Bonneville Power Administration (BPA or Bonneville) and Powerex. Please see ARB's Mandatory GHG Reporting – Asset Controlling Supplier webpage, found at the following address for more details on the approved ACS providers: http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep-power/acs-power.htm

1.4.4. What evidence does an importer need to provide for ARB to recognize a short-term purchase from BPA as specified source ACS power with the BPA ACS emission factor?

Reporters can use the BPA ACS emission factor for electricity imported from BPA, if the reporter can meet the seller warranty requirements for short-term transactions. Reporters can use Table 2 to determine if they meet the seller warranty requirements and have sufficient evidence to claim the BPA ACS emission factor for short-term transactions.

Table 2 – Seller Warranty Guidance
Short-Term Transactions for BPA Power

	BUYER PURCHASE SCENARIOS		
	Transacted Directly with BPA	**Transacted with Intermediate Seller**	**Unspecified Power Via Exchange or Broker***
SPECIFIED SOURCE CLAIM AT THE BPA ACS EMISSION RATE	Regardless of contracted amount, tags that show source as "BPA Power" or "BPA Slice" and were transacted directly with BPA must be claimed as specified	See Table 1 guidance for seller warranty	A specified source claim is not allowed, because the transacted power was by definition unspecified, as the source was unknown prior to contract execution
MUST BE CLAIMED AS UNSPECIFIED	Path out power received from BPA via e-tag (does not list BPA Power" or "BPA Slice" as source on e-tag must be claimed as unspecified	See Table 1 guidance for seller warranty	Must be claimed as unspecified, because buyer did not know source prior to contract execution
Note: This table assumes valid contract rights and direct delivery with appropriate source information. *Power can be transacted via broker as specified, and ARB regulations and guidance in no way prohibit brokered specified source sales, so long as all applicable specified source requirements are met.			

1.4.5. How do Powerex and BPA differ as Asset Controlling Suppliers?

BPA and Powerex are distinct entities with different capabilities and responsibilities, as described here. BPA only sells power from one source – its overall system portfolio. According to BPA, under its federal mandate, it cannot sell power from individual specified sources, nor can it self-market unspecified power, whereas Powerex can do both. Powerex can sell power from multiple sources, including specified, unspecified, or ACS power.

Although Bonneville considers all of its sales as sourced from the BPA system, ARB differentiates between Bonneville sales from two sources based on e-tags: BPA ACS power and path out power. Bonneville tags power from either BPA Power or BPA Slice (both of which are ACS power), or from non-BPA power sources (that were originally procured for use by the BPA system). Bonneville sales tagged from a non-BPA source, but sold by Bonneville as BPA power are referred to as path outs, or path out power. Thus, buyers of BPA power may end up receiving e-tags sourced as BPA Power, BPA Slice, or as path out power. Transactions tagged as BPA path out power, where BPA is the seller but the source is not the BPA ACS system, are not eligible to be claimed as specified source power, and therefore may not use the ACS emission factor for BPA.

A specified source contract is also required to claim ACS power, including from BPA. In contrast, path out power tags received as part of a BPA purchase must be claimed as unspecified for calendar year 2013 and beyond. Entities that transact directly with BPA must claim specified ACS power when tagged with the source as either "BPA Power" or "BPA Slice."

1.4.6. What power purchases made by an ACS will be included in its system emission factor calculation, and will thus be considered part of its ACS system footprint?

The ACS system emission factor calculation includes components for purchased electricity from specified and unspecified sources. Power purchases that sink to serve load or to maintain reliability of the ACS's system are included in the system emission factor calculation. Purchases intended to serve load or maintain system reliability that were sold as path outs will not be included in the system emission factor calculation.

1.4.7. When buying BPA Slice power, what documentation should be made available to a verifier to meet the seller warranty requirements?

For short-term and long-term transactions, EPEs must comply with the specified source requirements in MRR. In general, the importer must establish evidence of seller warranty for the transaction, meaning that the seller has specified source rights to the

BPA Slice power. For instance, for a transaction between an entity that has specified source rights to BPA Slice power and an entity that imports the power to California, evidence of seller warranty can be established through the following:

1. A confirmation between the BPA Slice holder and the importer. For long-term transactions, the reporter could provide a written confirmation between the BPA Slice holder and counterparty for each trade, denoting a sale of specified source power sourced as BPA slice. For short-term transactions, reporters should refer to Section 1.3.3 of document.

2. A contract between the BPA Slice holder and BPA, exchanged initially between counterparties.

1.4.8. Would a transaction using the WSPP contract (Schedule C) qualify as having a contract for specific source or ACS imports?

Yes. A transaction using the WSPP contract (Schedule C) qualifies as having a contract for specified source or ACS imports. Acceptable forms of a specified contract may include, but are not limited to, modified versions of either the WSPP Agreement Schedule B (Unit Commitment Service) or Schedule C (Firm Capacity/Energy Sale or Exchange Service) that specify the power is from the ACS system. Other contract forms that specify the source (e.g., a particular facility, unit, or ACS system) at the time of entry into the contract are also acceptable. A contract for a source of electricity that is not a specified source at the time of entry into the transaction to procure the electricity is unacceptable for the purposes of reporting a specified import.

More information can be found on the ACS webpage found here:
http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep-power/acs-power.htm.

2. Meter Data Requirements and Lesser Of Analysis

This section describes the meter data requirement in section 95111(b)(2)(E) of MRR. This section also describes the applicability and implementation of the lesser of analysis.

2.1. Overview of the Meter Data Requirement

The following FAQs address questions related to the meter data requirement in section 95111(b)(2)(E) of MRR, including what data must be retained and they types of specified source imports for which EPEs must retain meter data.

2.1.1. What is meter generation data referred to in section 95111(b)(2)(E) of MRR?

Meter generation data, referred to in section 95111(b)(2)(E), is the measured volume of electrical energy in megawatt-hours (MWh) produced by the specified source that is made available for movement on the transmission grid. An electric meter is a device that measures the amount of electrical energy as meter data produced by a commercial power plant. Some power plants have two meters per generation unit, one on the low-side at the busbar and one on the high side, while others may only have one. The low- and high-side refer to the voltage level of the electric power as it passes from the generator to the transmission grid.

2.1.2. Does ARB require reporting entities to submit actual meter data to comply with section 95111(b)(2)(E) of MRR?

Power plant owners or operators may not be able to provide actual generation meter data to reporting entities in the form of a direct data connection to an actual power plant meter or data fields and information produced by an actual power plant meter for a given time interval. If plant operators or owners are not able to provide actual meter data to the reporting entity, the reporting entity may use a spreadsheet representation of the meter data to comply with meter data requirements, along with evidence that the meter data was provided by the power plant owner or operator.

2.1.3. Do reporting entities have to retain meter generation data for all specified source imports?

Reporting entities do not have to retain meter generation data for all specified source imports. Reporting entities must only retain meter generation data for those imports for which a lesser of analysis is required, as described in Section 2.2 of this document.

2.1.4. How do reporting entities obtain meter information from a third party for a specified source?

The process of obtaining meter data is an industry practice not addressed by MRR. However, ARB recommends that a reporting entity contracting for renewable power from an eligible renewable energy resource for import to California make a request for meter data as a provision of the power contract to ensure delivery of the contracted product.

2.1.5. Is the meter data requirement in section 95111(b)(2)(E) of MRR applicable to specified source market purchases of imported electricity by power marketers?

Yes. Market purchases of specified source imported electricity (i.e. hourly, daily or quarterly) by power marketers, including purchases from out-of-state hydro resources, are subject to the requirements of section 95111(b)(2)(E) of MRR. Therefore, the lesser of analysis is also applicable to these types of transactions.

2.2. Lesser of Analysis

The following FAQs address questions related to the lesser of analysis, including a description of the lesser of analysis and why it is required, the types of specified source imports for which an EPE must conduct the lesser of analysis, and how an EPE conducts the lesser of analysis for required imports.

2.2.1. What is a lesser of analysis and how do reporting entities use meter generation data to conduct the analysis?

Reporting entities must conduct a lesser of analysis to determine the amount of generated and scheduled power that can be reported as specified source power. Using this analysis, reporting entities will determine the amount of power that can be reported as specified if there is a difference between the amount of electricity generated within an hour and the amount of electricity scheduled or metered into a California balancing authority within that same hour. When the imported power is documented via e-tag, the reporting entity must compare imported power as documented on the e-tag to the actual meter generation data on an hourly basis. Reporting entities must only report the lesser of the two amounts as directly delivered specified source power. Additionally, when imported power documented on the e-tag is greater than the amount of power generated by the plant in that hour, the reporting entity must report the difference as an unspecified import(s).

2.2.2. Why is a "lesser of" analysis required?

For GHG reporting purposes, MRR requires reporting entities to distinguish between specified and unspecified power imports under section 95111(a)(2). When power is delivered via e-tag from an out-of-state generation resource to a sink point in California, direct delivery occurs in hourly increments.[4] When hourly meter generation output (MWh) from a generation resource falls below scheduled hourly transmission levels, it is standard industry practice for ancillary services or other power sources to make up the

[4] In Section 95102(a) MRR defines four types of "directly delivered" power, including continuous physical transmission from the generation source to the sink in California.

difference. In this instance ancillary services or other power sources are substitute power under MRR. In order to comply with the provisions of section 95111(a)(2), a lesser of analysis must be used when required to determine that portion of electricity attributable to the specified source and that portion attributable to unspecified power. This accurate accounting of all power used in California is important to support a rigorous Cap-and-Trade Program.

2.2.3. When are reporting entities required to conduct the lesser of analysis?

Reporting entities must conduct a lesser of analysis for imports from specified sources for which ARB has calculated an emission factor of zero, and for imports from certain California RPS eligible renewable energy resources. These include directly delivered imports from eligible, non-grandfathered renewable energy resources under the RPS program as administered by the California Energy Commission (CEC) or the California Public Utilities Commission (CPUC).

Pursuant to section 95111(b)(2)(E) of MRR, reporting entities are not required to conduct a lesser of analysis for imports with: (1) contract or ownership agreements, known as grandfathered contracts that meet California RPS program requirements in Public Utilities Code Section 399.16(d) or California Code of Regulations, Title 20 Section, Division 2, Chapter 13, Section 3202(a)(2)(A), (2) dynamically tagged power deliveries, (3) untagged power deliveries, including Energy Imbalance Market (EIM) imports, (4) nuclear power, (5) ACS power, and (6) imports from hydroelectric facilities for which an entity's share of metered output on an hourly basis is not established by power contract.

Please contact ARB staff if you have a question about whether a lesser of analysis is required for a specific resource.

2.2.4. Are reporting entities required to conduct the lesser of analysis for Portfolio Content Category 2 (Firmed and Shaped) REC transactions as defined by CEC?

Portfolio Content Category 2 firmed and shaped transactions contain two main components: (1) renewable out-of-state power that is not imported to California, and (2) an equal amount of out-of-state unspecified power that is imported to California. Generally, reporting entities claim the renewable out-of-state power as an RPS adjustment, subject to meeting all applicable requirements, whereas reporting entities report the unspecified imported power as an unspecified import. Reporting entities are not required to conduct a lesser of analysis for either of these separately reported items.

2.2.5. Are importers of electricity from the Mid-Columbia Hourly Coordination Agreement (Mid-C hydro) subject to the meter data requirement in section 95111(b)(2)(E)? If yes, are importers required to conduct a lesser or analysis?

Yes. Importers of electricity from Mid-C hydro are subject to the meter data requirements in section 95111(b)(2)(E) of MRR, and they are required to conduct a lesser or analysis. Instead of meter generation data, entities that either own or have a contractual allocation of Mid-C hydro generation at one or more of five non-federal hydro projects receive allocated generation data reports that show which entity received what output from the combined hydro projects, based upon ownership or contract share. The Mid-C hydro allocation results represent actual output in the same way that meter generation data represents actual output of an individual facility.

2.2.6. What documentation is required to support a specified source claim for Mid-C hydro imports under MRR?

For imports from Mid-C hydro, importers are required to maintain the following documentation in support of reported specified source claims for verification purposes under MRR: (1) the power sales agreements with each of the relevant Mid-C public utility districts showing ownership of the output of the Mid-C resource and its environmental attributes, (2) e-tags, (3) the Mid-C hydro allocation report showing the Mid-C participants share of hydroelectric generation from its Mid-C allocation, from a report generated by the Columbia Basis Telecommunications Network, the Mid-C exchange website, or the Mid-C manager (Grant County or "Central"), and (4) the meter data in the form of an allocated generation report. Upon review, a verifier may ask for additional information. In addition, EPEs are required to separately report substitute electricity for each specified source claim, per section 95111(a)(2) of MRR.

2.2.7. Can you provide an example of how to conduct a lesser-of analysis for purposes of complying with MRR?

Table 3 provides sample meter data that would be used in a lesser of analysis. Examples 1 and 2 provide meter data that represents under- and over-generation scenarios, respectively, from Source A.

Table 3 **Meter Data Requirement During Under- and Over-Generation** *Illustration for One Hour of Generation Scheduled and Delivered*		
Description	*Example 1* **Under-Generation** (MW or MWh)	*Example 2* **Over-Generation** (MW or MWh)
	MW	MW
Metered Generation at Source A	85	115
Scheduled on e-Tag	100	100
Lesser Of Meter or Scheduled	**85**	**100**
Zero Emission Specified Source Claim	85	100
Substitute Power	15	0
Potential RPS Adjustment Claim	0	15

Example 1: Scheduled Power on e-tag Exceeds Generation in the Hour.

Source A generates 85 megawatts (MW) in a given hour, but 100 MW is scheduled for that hour on a single NERC e-tag. Because only 85 MW is generated and 100 MW is scheduled, an additional 15 MW must be obtained by the EPE to meet the scheduling requirement of the e-tag. The additional 15 MW is provided by the Transmission Provider (TP) and consists of unspecified power from the host BAA. While 100 MW is directly delivered to California during that hour, the reporting entity can only claim 85 MW as zero emission power, and the entity must report the remaining 15 MW as unspecified power.

Example 2: Generated Power in the Hour Exceeds Scheduled Power on e-tag.

Source A generates 115 MW in a given hour, but only 100 MW is scheduled for that hour on a single NERC e-tag. The reporting entity must only report 100 MW as specified imported power to California. The remaining 15 MW cannot be claimed as an import because it did not appear on the NERC e-tag and was not delivered to California. If all additional requirements for meeting the RPS adjustment are met, the reporting entity may report the 15 MW as an RPS adjustment.

2.2.8. What happens if you fail to conduct a lesser of analysis as required under MRR?

Pursuant to section 95111(b)(2)(E) of MRR, an EPE must conduct a lesser of analysis when applicable and must accurately report the associated specified and unspecified electricity in the GHG emissions data report. If a reporting entity does not report specified power as specified, or does not conduct a lesser of analysis for required

sources under MRR, the verification body would issue a finding of nonconformance. If the error identified by the verification body is not corrected, it would result in an adverse verification statement pursuant to section 95131(b)(9) of MRR.

2.2.9. If, after conducting the lesser of analysis, I have substitute power how do I report that in Cal e-GGRT?

As discussed in Section 2.2.2 of this document, if the amount of scheduled power exceeds the actual power generated for the resource in a given hour, that excess would be considered substitute power and reporting entities would report it as unspecified power. In Workbook 1, which is uploaded to Cal e-GGRT, reporting entities must report substitute electricity separately for each specified source.

2.2.10. When multiple buyers receive output from a renewable facility, how do I determine whether I have to report substitute electricity and not another counterparty? For instance, if two EPEs each import 50 MW from a renewable facility in hour ending 16 (HE16), but the HE16 meter data shows that the facility only produced 80 MW in that hour, how much substitute electricity must each EPE report?

The practice of allocating the commercial energy output from a renewable generation resource is an industry practice not addressed by MRR. Table 4 below provides an example to show how much substitute electricity must be reported by each EPE in this scenario. For this example, we assume that each EPE receives a contractually based percentage of output from the facility, which is an eligible renewable energy resource in California. Each EPE would report substitute power calculated in Column F based on their respective shares of the meter data output. EPE 1 would report 18 MW as unspecified and EPE 2 would report 2 MW as unspecified.

Table 4
Meter Data Shared Output Example
Illustration for One Hour of Generation Scheduled and Delivered

Description	*Tagged In HE16* (MW)	*Metered Output In HE16 (MW)*	*Share of Metered Output (%)*	*Share of Metered Output (MW)*	*Reportable Substitute Power* (MW)
(A)	(B)	(C)	(D)	(E)=(C*D)	(F)=(B-E)
EPE 1	50	80	40%	32	18
EPE 2	50	80	60%	48	2

3. Qualified Export Adjustment

This section describes the requirements for claiming a qualified export (QE) adjustment pursuant to section 95852(b)(5) of the Cap-and-Trade Regulation.

3.1. General Requirements and Applicability for Qualified Exports

The following FAQs address questions related to qualified exports, including a description of qualified exports and the QE adjustment, and who is eligible to claim the QE adjustment.

3.1.1. What is a qualified export?

A qualified export is a megawatt-hour of electricity that is exported out of California in the same hour as a megawatt-hour of electricity imported into California by the same purchasing-selling entity (PSE). The import and export transactions are documented on NERC e-tags to have occurred in the same hour, but do not need to enter or leave California at the same intertie. QE adjustments may also be available without NERC e-tags in limited circumstances. Please contact ARB directly to discuss these circumstances.

3.1.2. What is the QE adjustment?

Pursuant to section 95852(b)(5) of the Cap-and-Trade Regulation, the QE adjustment is a reduction to the compliance obligation of an EPE to reflect electricity imported and exported during the same hour by that PSE. In the covered emissions calculation (section 95852(b)(1)(B) of the Cap-and-Trade Regulation), the total annual QE adjustment is deducted from the covered emissions of an EPE. The QE adjustment cannot result in a negative covered emissions value.

3.1.3. Who is eligible to claim the QE adjustment?

An EPE with imports into California and exports out of California during the same hour may claim the QE adjustment, subject to applicable requirements in section 95852(b)(5) of the Cap-and-Trade Regulation.

3.2. Calculating and Reporting Qualified Exports

The following FAQs address questions related to the QE adjustment, including how it is calculated and reported under MRR.

3.2.1. How is a QE adjustment calculated?

Section 95852(b)(5)(A) of the Cap-and-Trade Regulation describes how the QE adjustment is calculated. To assist reporters, staff has developed an equation that EPEs may use to calculate the QE adjustment. To calculate the QE adjustment, an EPE must have at least one import and one export in the same hour that meet the requirements of the Cap-and-Trade Regulation. An EPE may have multiple imports and exports in the same hour. The total QE adjustment is the sum of all hourly QE adjustments for a given reporting year.

$$CO_2e_{QE\_adjustment} = \sum_1^{8760} QE_{hourly}$$

Where:

$CO_2e_{QE\_adjustment}$ = annual sum in metric tons carbon dioxide equivalent ($MTCO_2e$ of all hourly QE adjustments

$$QE_{hourly} = \text{MIN}(\sum_{i=1}^{n} MWh_{import}, \sum_{j=1}^{n} MWh_{export}) \text{ x } MIN\left(MIN(EF_{import}), MIN(EF_{export})\right)$$

Where:

QE_{hourly} = the product of (1) the lower of either the quantity of exports or imports in MWh for the hour; multiplied by (2) lowest emission factor of any portion of the qualified exports or corresponding imports for the hour

MIN is a function that selects the smallest of the values identified

$\sum_{i=1}^{n} MWh_{import}$ = the sum, in MWh, during the hour for all imports

$\sum_{j=1}^{n} MWh_{export}$ = the sum, in MWh, during the hour for all exports

EF_{import} = the emission factor, in $MTCO_2e$/MWh, for each import transaction on a separate NERC e-tag during the hour

EF_{export} = the emission factor, in $MTCO_2e$/MWh, for each export transaction on a separate NERC e-tag during the hour

EPEs may calculate hourly QE adjustments in their own spreadsheet(s) and then enter the required data into the Workbook 1 "QE Adjust" tab. However, EPEs must retain the hourly QE adjustment calculations and supporting data for verification and recordkeeping purposes pursuant to MRR.

3.2.2. How should the QE adjustment be reported under MRR?

Reporting the QE adjustment is optional, but if the adjustment is claimed, the EPE must report the information required in Workbook 1 in the "QE Adjust" tab. For each hour shown in Column A of the QE Adjust tab, the EPE must report the following values:

- The quantity of imports in MW during that hour;

- The quantity of exports in MW during that hour;
- The lowest emission factor in MT CO_2e per MWh of any portion of the import on a separate NERC e-tag during that hour; and
- The lowest emission factor in MT CO_2e/MWh of any portion of the export on a separate NERC e-tag during that hour.

Figure 1 provides a screenshot from the "QE Adjust" tab in Workbook 1:

Figure 1: Screenshot of Data Entry Fields for Qualified Exports in Workbook 1

Hour in CY2014	Quantity of IMPORTS in Each Hour (MWh)	Quantity of EXPORTS in Each Hour (MWh)	Lowest Emission Factor of any portion of the IMPORT in each hour (MT CO_2e/MWh)	Lowest Emission Factor of any portion of the EXPORT in each hour (MT CO_2e/MWh)	Lowest Quantity of Imports or Exports in Each Hour (MWh)	Lowest Emission Factor of Imports or Exports in each hour (MT CO_2e/MWh)	QE Adjustment MT CO_2e
1					0	0.000	0

3.2.3. What does the term "any portion" of imports or exports in section 95852(b)(5)(A) of the Cap-and-Trade Regulation refer to?

The term "any portion" of imports or exports refers to separately tagged amounts. For example, consider an EPE with 100 MW of imports during a given hour, where the 100 MW of imports consists of three imports of 20, 30, and 50 MW on three separate e-tags. The "lowest emission factor of any portion of the total 100 MW import during that hour" would be the lowest emission factor among the three separately tagged imports for that hour. Consider the examples in Table 5, below. The import from Source 2 has the lowest emission factor among the three import transactions. Thus, the emission factor for Source 2 would be used in the QE adjustment calculation for that hour, where the QE adjustment would be the product of (1) the Source 2 emission factor, and (2) the lower quantity of imports or exports for that hour.

Table 5
Illustration of "Any Portion" of Imports During a Given Hour
for use in Calculating the QE Adjustment

Generation Source	Import (MW)	Emission Factor (EF) (MT CO_2e/MWh)
Source 1	20	0.413
Source 2	30	**0.125**
Source 3	50	0.381
Note: All tagged amounts are for the same hour, e.g., Hour Ending (HE) 16. In this example, Source 2 has the lowest emission factor (0.125) of the three imports in the same hour.		

3.2.4. Can ARB provide an example of how to calculate the QE adjustment?

Table 6 below provides a sample QE adjustment calculation for an illustrative EPE using the "QE Adjust" tab in Workbook 1. The table contains data for five sample hours, shown as hours 1 through 5 Column A of the table. For each hour, the EPE must provide data in columns B, C, D, and E. The value input into columns B and C is equal to the hourly total of all separately tagged imports and exports, respectively, for that hour. The value input into columns D and E is equal to the lowest emission factor as described method in Section 3.2.3 above, for imports and exports respectively.

Once the reporting entity has entered data into columns B, C, D, and E, then columns F, G, and H are automatically calculated in Workbook 1. The resulting QE adjustment is the sum of the individual lines items, a total of 117 $MTCO_2e$, which would be applied as a reduction in the entity's covered emissions.

Note: The QE adjustment cannot result in a negative covered emissions value.

Table 6
Illustrative QE Adjustment Calculation

	Data Submitted by EPE				Calculations Performed by Workbook 1		
Hour	**Import (MW)**	**Export (MW)**	**Lowest Emission Factor (EF) Import ($MTCO_2e$/MWh)**	**Lowest EF Export ($MTCO_2e$/MWh)**	**Minimum of Import or Export (MW)**	**Minimum of Import or Export EF ($MTCO_2e$/MWh)**	**QE Adjustment ($MTCO_2e$)**
(A)	**(B)**	**(C)**	**(D)**	**(E)**	**(F)=Min[B,C]**	**(G)=Min[D,E]**	**(H)=FxG**
1	100	86	0.391	0.360	86	0.360	31
2	126	128	0.397	0.379	126	0.379	48
3	87	39	0.202	0.185	39	0.185	7
4	22	163	0.215	0.335	22	0.215	5
5	107	102	0.253	0.287	102	0.253	26
Total QE Adjustment claimed in the Covered Emissions Calculation:							**117**

3.2.5. Must the imports and exports in the QE adjustment flow through the same intertie?

No, electricity imported and exported during the same hour by the same EPE does not have to flow through the same intertie.

3.2.6. What if one of the emission factors in the QE calculation is zero?

If the emission factor for either the import or the export in the QE calculation is zero, the resulting QE adjustment will be zero, and no QE adjustment can be claimed in that hour.

3.2.7. What supporting documentation is required for verification of the QE adjustment?

For verification purposes, an EPE claiming the QE adjustment must maintain sufficient documentation to show how the hourly import and export values were determined, with associated emission factors. This information could be included in supporting spreadsheets used by the EPE to do its own detailed calculations. Verifiers may also request e-tags associated with imports and exports for which the QE adjustment was calculated, and documentation to show that any specified imports are reported consistent with the requirements of MRR. Because the QE adjustment results in a reduction to an EPE's covered emissions, verifiers should consider this a high risk area of the emissions data report and perform appropriate data checks and analysis to substantiate the information reported. If the verification body identifies an error in the QE adjustment and the error is not corrected, it would result in an adverse verification statement pursuant to section 95131(b)(9) of MRR.

4. Renewable Electricity and Renewable Energy Credits

This section describes the requirements for renewable energy and renewable energy credits (REC) under MRR and the Cap-and-Trade Regulation.

4.1. Renewable Energy Credits

The following FAQs address questions related to RECs, including how the term "renewable energy credit" is defined in MRR and the Cap-and-Trade Regulation and how RECs are created.

4.1.1. How has ARB defined the term "renewable energy credit" in MRR?

In MRR section 95102(a), the term "Renewable Energy Credit" or "REC" is defined as having the same meaning as defined in the CEC "Renewables Portfolio Standard Eligibility," 7th edition, Commission Guidebook, April, 2013; CEC-300-2013-005-ED7-CMF. The CEC guidebook is posted online at http://www.energy.ca.gov/2013publications/CEC-300-2013-005/CEC-300-2013-005-ED7-CMF.pdf.

4.1.2. Is there a substantive difference between how MRR and the Cap-and-Trade Regulation define "renewable energy credit?"

No. The same definition is used for both programs. Thus, both regulations define a "renewable energy credit" as a REC specific to the California RPS; such RECs may be created for electricity generating facilities located inside or outside of California.

4.1.3. How are California RPS RECs created?

California RPS RECs (California RECs) are created when electricity is generated by a California "eligible renewable energy resource" which is defined in both the Cap-and-Trade Regulation and MRR as having "the same meaning as defined in Section 399.12 of the Public Utilities Code." Public Utilities Code 399.12(e) sets forth detailed requirements for these resources. CEC maintains a list of eligible renewable energy resource that are compliant with the requirements of Public Utilities Code 399.12, and CEC has certified these as California RPS eligible facilities at: http://www.energy.ca.gov/portfolio/documents/List_RPS_CERT.xls

4.1.4. Am I required to report serial numbers for RECs that are created for an electricity generating facility that is not a California Eligible Renewable Energy Resource?

No. If an electricity generating facility is not a California eligible renewable energy resource, i.e., the resource is not listed by CEC in the link above, no RECs recognized for RPS compliance in California are created. Therefore, RPS adjustments are not allowed, and there is no requirement to report REC serial numbers for the specified imports.

4.2. REC Requirements for Specified Source

The following FAQs address questions related to the reporting requirements of RECs for specified source imports.

4.2.1. Do I need to retire RECs from specified source imports of renewable electricity that meet the direct delivery requirements?

For electricity imported in 2014 and reported in 2015, as well as future years, RECs do not need to be retired for specified source imports; however, REC serial numbers must be reported. Section 95852(b)(3)(D) of the Cap-and-Trade Regulation requires that, if RECs were created for the electricity generated and reported under MRR, then the REC serial numbers must be reported and verified. Reporting requirements for REC serial numbers are in section 95111(g)(1)(M) of MRR.

4.2.2. For specified electricity imported on behalf of a retail provider, is the first deliverer required to report REC serial numbers?

Yes, the first deliverer is required to report REC serial numbers. The reporting and compliance obligation applies to the first deliverer of electricity imported to California.

4.2.3. Are there any requirements related to RECs for imported ACS power?

No. EPEs are not required report REC serial numbers for specified imported electricity from an ACS's system. ACS power is not on the list of CEC's eligible renewable energy resources and thus, by definition, does not produce California RPS-eligible RECs.

4.3. REC Requirements for RPS Adjustment

The following FAQs address questions related to the reporting requirements of RECs for claiming the RPS adjustment.

4.3.1. Do RECs need to be reported and retired to claim an RPS adjustment?

Yes, RECs associated with an RPS adjustment must be reported and retired according to section 95852(b)(4)(B) of the Cap-and-Trade Regulation.

4.3.2. When do RECs need to be retired in order to claim an RPS adjustment?

Pursuant to section 95852(b)(4)(B) of the Cap-and-Trade Regulation, RECs associated with the RPS adjustment must be retired within 45 days of the reporting deadline to be eligible for the RPS adjustment.

In addition, section 95111(g) of MRR states that reported RECs must be reconciled and certified within 45 days of the June 1 reporting deadline.

4.3.3. Where do RECs need to be retired in order to claim an RPS adjustment?

RECs associated with an RPS adjustment must be placed into the retirement subaccount of an entity subject to RPS in the accounting system established by CEC pursuant to Public Utilities Code 399.25, commonly known as the Western Renewable Energy Generation Information System (WREGIS), an independent, renewable energy tracking system for the region covered by the Western Electricity Coordinating Council. When the first deliverer of imported electricity claims an RPS adjustment for electricity and RECs purchased on behalf of another entity that is subject to RPS, the two entities must ensure the REC retirement reports are available for the verifier to review.

4.3.4. What if the RECs have not yet been retired at the reporting deadline, but will be retired within 45 days of the filing date, per section 95111(g)?

If RECs are not retired at the time the GHG emissions data report is certified, but the reporter intends to retire them within 45 days of the reporting deadline as required in section 95852(b)(4)(B) of the Cap-and-Trade Regulation, the emissions data report should still indicate that the RECs "will be retired later" in the RPS adjustment section of Workbook 1. Note that this designation will exclude these RECs from being included in the RPS adjustment calculation and the covered emissions calculation. After the June 1 reporting deadline and after the RECs have been retired, the reporting entity must request its verifier unlock the GHG emissions data report to include the updated REC status. When the RECs are designated as "retired," the RPS adjustment and covered emissions will be recalculated in Workbook 1. This process must be completed within 45 days of the June 1 reporting deadline.

4.3.5. If RECs are retired after the 45-day reconciliation period in 95111(g), but before the September 1 verification deadline, will the RPS adjustment still be valid?

There will not be an RPS adjustment for RECs that are not retired within 45-days after the June 1 reporting deadline. However, the importer may be able to retire the RECs and report the RPS adjustment with the next year's report. This information is auditable by ARB and reporters should retire RECs as early as possible to facilitate timely verification and avoid the need to have the verifier unlock the emissions data report.

4.3.6. What is the consequence of failure to retire a REC associated with the RPS adjustment?

Failure to retire the RECs associated with the RPS adjustment will invalidate the RPS adjustment. If an RPS adjustment is claimed in the June 1 emissions report but RECs

have not been retired within 45 days, the RECs would need to be retired or the emissions data report would need to be revised to eliminate the excess RPS adjustment claimed. If not corrected, the verifier would be required to issue an adverse verification statement pursuant to section 95131(b)(9) of MRR.

4.3.7. What contract requirements must be met for a reporting entity to claim the RPS adjustment?

The reporting entity must have a contract to procure (or to procure on behalf of another purchasing entity) both the electricity and the associated RECs generated by the eligible renewable energy resource. The reporting entity must have ownership in, or a contract to procure the output of, the eligible renewable electricity generator. Contractually, the purchasing entity subject to the California RPS must be party to a contract with the reporting entity if the reporting entity is not subject to the RPS, as described in section 95852(b)(4)(A) of the Cap-and-Trade Regulation. In this case, the reporting entity must have a contract to procure both the electricity generated and the associated RECs on behalf of the purchasing entity subject to the California RPS.

4.3.8. Does the language in section 95852(b)(4) of the Cap-and-Trade Regulation pertain to firming and shaping power transactions?

No. The language in section 95852(b)(4) of the Cap-and-Trade Regulation pertains to the eligibility requirements for an EPE to claim the RPS adjustment. The components of firmed and shaped power must be reported separately as specified or unspecified imported power, and, if eligible, as the RPS adjustment in Workbook 1. The reporting of firming and shaping power may result in a compliance obligation. The RPS adjustment will reduce the compliance obligation of an EPE based on the quantity of MWh procured from the eligible renewable energy resource that was not directly delivered to California.

4.3.9. Does the Cap-and-Trade Regulation or MRR require retired RECs to be placed into a particular WREGIS subaccount (e.g., a 2014 or 2015 subaccount)?

In order to claim an RPS adjustment, RECs must be placed in the WREGIS retirement subaccount of the entity subject to the California RPS. The RECs in the subaccount must be designated as retired for the purpose of compliance with the California RPS program. MRR and the Cap-and-Trade Regulation do not specify the specific year of the WREGIS REC retirement subaccount into which the RECs must be placed.

4.3.10. Can RECs that are eligible to be used for the RPS adjustment be held for future use in another compliance year?

The compliance obligation under the Cap-and-Trade Program begins with electricity generated and imported during the 2013 data year. RECs with a vintage before this year are not eligible for the RPS adjustment. The vintage year is the year the electricity was generated. 2013 vintage RECs or later vintages may be used in the RPS adjustment during all later years. For example, when reporting 2014 emissions in 2015, the importer may use RECs of either 2013 or 2014 vintages to claim an RPS adjustment.

4.3.11. What type of information will the verifier request regarding RECs and REC retirement?

Verifiers take a risk-based approach to sampling reported data to reach reasonable assurance that there is no material misstatement of emissions data reported and to reach reasonable assurance that the reported information conforms to MRR requirements. Verifiers' assessment of risk and their approach to sampling data is informed by many factors, including the completeness and thoroughness of the reporting entity's GHG Inventory Program documentation, competency and experience of reporting entity staff, as well as complexity and risk inherent to the types of data in the emissions data report.

Because the RPS adjustment results in a reduction of covered emissions, verifiers should consider this a high risk area. This will mean that verifiers will work to understand the process by which reporting entity staff determine the total RPS adjustment for a given year and assure whether all associated RECs are correctly reconciled and retired within 45-days of the reporting date. In addition, verifiers will review individual RPS adjustment transactions in more detail, including a review of applicable contracts to procure the electricity and RECs, and a sample of raw e-tag data to confirm that the power was sourced at or near the reported facility and that power was not directly delivered to California. Verifiers will also use the WREGIS Reports to confirm that applicable RECs have been appropriately retired and serial numbers appropriately reported. RECs associated with the RPS adjustment should be reported in the REC serial tab, and should match the total number of MWh listed in the RPS adjustment tab.

For specified source imports, verifiers will confirm whether the reported imports are from a California eligible renewable energy resource. If so, verifiers will confirm that this is indicated in Workbook 1 and the GHG emissions data report, and that REC serial

numbers are appropriately reported in the REC serial number tab consistent with the total number of MWh imported from California eligible renewable energy resources.

5. Reporting Sales into California Independent System Operator (CAISO) Markets

This section describes the requirements for reporting sales into CAISO markets.

5.1. General Requirements and Applicability for Reporting Sales into CAISO Markets

The following FAQs address questions related to reporting sales into CAISO markets, including which entities the requirements apply to.

5.1.1. Who must report sales into CAISO markets?

Each publicly owned utility (POU) or electrical cooperative (co-op), unless it had all its directly allocated allowances placed in its limited use holding account (LUHA) in the Compliance Instrument Tracking System Service (CITSS), must report, for each data year, all sales into CAISO markets for which it has a compliance obligation. POUs and co-ops must use the "CAISO Sales" worksheet in Workbook 1. A POU or co-op that had all allocated allowances placed in its LUHA should answer "No" to the question "Are you required to report electricity sales into CAISO pursuant to section 95112(a)(12)?" at the top of the "CAISO Sales" worksheet.

5.1.2. Why must POUs and co-ops report CAISO sales?

Section 95892(d)(5) of the Cap-and-Trade Regulation prohibits the use of allocated allowance value for sales into CAISO markets. ARB staff will consider the amount of sales into CAISO markets reported and the number of allowances needed to account for those sales to determine if a POU or co-op has purchased enough allowances, separate from those allocated, to cover the CAISO sales.

5.1.3. What constitutes a sale into CAISO markets?

Electricity sold into the CAISO markets means electricity sold into CAISO markets, including but not limited to the day-ahead market, real time market, integrated forward market, and energy imbalance market. Transactions excluded as CAISO sales pursuant to section 11.29(a)(iii) of the CAISO Fifth Replacement Tariff dated May 1, 2014 do not fall under this definition. Sales into CAISO includes all electricity bid (scheduled) into CAISO markets except electricity bid in with no price that is used by a POU or co-op solely to serve its own native load over a scheduling interval. During any

CAISO market time interval (e.g., hourly scheduling interval or shorter dispatch interval), the amount of electricity bid in from a resource (or set of resources) that does not exceed the utility's metered CAISO demand for that interval is not a sale into CAISO. Any excess supply of a utility's bid(s) over what the utility takes for its load during the interval is a sale. No netting of electricity bid in and taken out of CAISO markets over multiple intervals is allowed in calculating sales into CAISO markets. In addition, CAISO's tariff indicates that electricity scheduled by a utility from a generation resource that was funded by municipal tax-exempt debt to serve the utility's native load is not a sale into CAISO.

5.2. Reporting Sales into CAISO markets in Cal e-GGRT

The following FAQs address questions related to reporting sales into CAISO markets, including how entities report the information in Cal e-GGRT.

5.2.1. How does a POU or co-op report sales into CAISO markets?

A POU or co-op must report sales in CAISO on the "CAISO Sales" tab of Workbook 1. POUs and co-ops must report MWh sold into CAISO by source of generation (facility or unit), if known, and the emission factor for each source (if known). Include in the report the ARB ID number for the facility or source, and the year of generation. POUs and co-ops must report CAISO sales for both 2013 and 2014 by June 1, 2015. Any sales into CAISO not reported by source must be reported as sales from unknown sources.